

CSP 0692-01-CT

TEMPORARY COVERED SOURCE AIR PERMIT (CSP) ENGINEERING REVIEW
RENEWAL APPLICATION NO. 0692-02

REVIEWER Joseph Baumgartner
DATE July 7, 2014

FACILITY Close Construction, Inc.
350 TPH Stone Processing Plant with 300 HP Diesel Engine

LOCATION Various Temporary Sites, State of Hawaii

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EQUIPMENT:

Equipment	Date Mfg'd	Description	Model/Serial No.	Production Capacity	Fuel
Existing Mobile Impact Crusher	Sept 08	Impact Crusher	Model no. 4043T SN D4043TcJE1789	350 TPH	
		Caterpillar diesel engine powering crusher	Model no. C9 SN BDL05298	300 HP	FO #2 15 gal/hr 0.5% Sulfur
Existing Screening Plant	May 99	Spyder 516T Screen	Model no. 516T SN D-516T-SPY-A-JC1603	400 TPH	
		Cummins diesel engine powering screen (insignificant)	Model MB OM 94LA	112 HP	FO #2 5.8 gal/hr

PERMIT BACKGROUND

The permittee is limited to operating 4,000 hours in any twelve-month (12-month) rolling period. The operating hours for the crusher and screen are monitored using the hour meters on the diesel engines. Proposed typical operating schedule is eight (8) hours/day, five (5) days/week, 52 weeks/year = 2,080 hours/year.

Both the crusher and screen are self-propelled, so will not be required to move annually.

PROCESS BACKGROUND

Process: SICC 1429

Raw material is dropped into the vibrating grizzly by a loader and passed to the Impact crusher. The crushed material drops on to a moving conveyor belt and is transported to the 5 x 16 screen where it is size segregated and the oversize material is conveyed back to the crusher. The product material is conveyed to two stockpiles. The crusher is self-propelled and powered by the 300 hp Caterpillar C-9 diesel engine. The screen is self-propelled and powered by a 112 hp Cummins diesel engine.

AIR POLLUTION CONTROLS

Water suppression will be used as necessary to control fugitive dust.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)

Title 11 Chapter 59, Ambient Air Quality Standards

Title 11 Chapter 60.1, Air Pollution Control

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31 Applicability

11-60.1-32 Visible Emissions

11-60.1-33 Fugitive Dust

11-60.1-38 Sulfur Oxides from Fuel Combustion

Subchapter 5, Covered Sources

Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural Burning

11-60.1-111 Definitions

11-60.1-112 General fee provisions for covered sources

11-60.1-113 Application fees for covered sources

11-60.1-114 Annual fees for covered sources

Subchapter 10, Field Citations

This source is **subject to NSPS** (New Source Performance Standards).

40 Code of Federal Regulations (CFR) Part 60, Subpart OOO - Standards of Performance for Non-metallic Mineral Processing Plants is applicable to portable crushed stone plants with capacities greater than 150 TPH that commence construction, reconstruction, or modification after August 31, 1983. The proposed unit meets these conditions and **is subject to Subpart OOO**. Existing screening units are normally operated independently of the crushing plants. Although stand alone screens are exempt from Subpart OOO, there may be times, depending on future jobs, when one or more of the screens will be operated in conjunction with a crusher (i.e., all of the material crushed is then screened). Should these screening plants be utilized in conjunction with a crusher, that screen and its conveyors, shall be subject to Subpart OOO. The new crushing and screening plant is designed to operate as one unit where the screen will always be used in conjunction with the crusher, and thus is subject to OOO.

40 CFR Part 60 – NSPS, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines **does not apply** to the diesel engines. The diesel engines power mobile equipment on tracks and are nonroad engines in accordance with 40 CFR §1068.30 (1)(i). Nonroad engines are exempt from the 40 CFR Part 60, Subpart IIII.

40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines is **not applicable** to this facility because all portable engines will be operated as nonroad engines. Nonroad engines are exempt from 40 CFR Part 63, Subpart ZZZZ.

This source is **not subject to NESHAPS** (National Emission Standards for Hazardous Air Pollutants for Source Categories) as no hazardous air pollutants are emitted at significant levels (≥ 10 TPY single hap or ≥ 25 TPY for total haps) and this source is not listed under 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

This source is **not subject to PSD** (Prevention of Significant Deterioration) requirements because it is not a major stationary source as defined in 40 CFR 52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

This source is **not subject to CAM** (compliance assurance monitoring) since the proposed equipment is not classified as a major source (criteria pollutant > 100 TPY); has no pre-control device potential emissions exceeding applicable major source thresholds; nor fitted with an “active” air pollution control device; and not or not part of a facility with total emissions exceeding major source threshold.

This source is **not subject to AERR** (Air Emissions Reporting Requirements) since 40 CFR Part 51, Subpart A – Emissions Inventory Reporting Requirements, determines AERR based on potential facility wide emissions of each air pollutant at the AERR triggering levels. The emissions do not exceed respective AERR threshold levels.

The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding the DOH reporting level(s) and for all covered sources. Annual emissions reporting will be **required** because this is a covered source.

This source is **not subject to a BACT** (Best Available Control Technology) analysis because it is required for new covered sources or significant modifications to covered sources that have the potential to emit or increase emissions above significant levels as defined in HAR §11-60.1-1. There are no proposed changes for this renewal application. Therefore, a BACT analysis is not required for this permit renewal.

A synthetic minor source is a facility that is potentially major as defined in HAR 11-60.1-1, but is made non-major through federally enforceable permit conditions. This facility **is a synthetic minor source** because potential emissions exceed major source thresholds when the facility is operated at its maximum capacity continuously for 8,760 hours per year.

INSIGNIFICANT ACTIVITIES

The 112 hp diesel engine powering the screener is proposed as insignificant in accordance with HAR 11-60.1-82(f)(2).

ALTERNATIVE OPERATING SCENARIOS (AOS)

None. The previous permit contained the AOS allowing the permittee to replace the diesel engine with a temporary replacement engine. The permitted diesel engine is on the crushing unit and is used to drive the unit and crush stone. The conditions allowing for the temporary replacement is determined not to apply to this facility.

PROJECT EMISSIONS

Total GHG emissions on a CO₂e basis using the global warming potential (GWP) of the GHG are shown in the table below for one (1) 300 HP Caterpillar C-9 Diesel Engine (Nonroad Engine) based on 4,000 hours per year.

GHG	GWP	GHG Mass-Based Emissions (TPY)	CO ₂ e Based Emissions (TPY)
Carbon Dioxide (CO ₂)	1	670.2	670.2
Methane (CH ₄)	25	0.03	0.7
Nitrous Oxide (N ₂ O)	298	0.005	1.6
Total Emissions:			672.5

TOTAL EMISSIONS

Individual equipment and total facility emissions are summarized within the immediate table below.

Table 1: Total Equipment Emissions (TPY)					
Pollutant	DEG	CRUSHER	SCREEN	TOTAL	
	4000 (hr/yr)	4000 (hr/yr)	4000 (hr/yr)	4000 (hr/yr)	8760 (hr/yr)
CO	3.90	--	--	3.90	8.55
NO _x	18.13	--	--	18.13	39.69
PM-30(TSP)	--	3.02	48.0	51.02	127.18
PM-10	1.27	0.48	14.40	18.77	37.77
PM-2.5	--	0.01	0.11	0.12	0.31
SO _x	2.08	--	--	2.08	4.55
TOC/VOC	1.44	--	--	1.44	3.15
HAPs	0.017	--	--	0.02	0.04

See review of application 0692-01 for calculations of emissions from existing equipment.

Proposed emissions are based on the following hours of operation:

Equipment	Limited Hours of Operation
Mobile Impact Crusher	4,000 hr/yr
Screener	4,000 hr/yr
Diesel Engine	4,000 hr/yr

FACILITY EMISSIONS CALCULATIONS

No modifications were made to the equipment or operational limits since the initial permit. See previous review for calculations.

AIR QUALITY ASSESSMENT

An ambient air quality analysis (AAQA) was not conducted for this renewal. No modifications were made to the equipment or operational limits since the initial permit. See previous review for results from initial assessment.

Conclusion and Recommendation:

In conclusion, it is the Department of Health's determination that the facility will comply with all State and Federal laws, rules, regulations, and standards with regards to air pollution.

Therefore, a renewal for CSP No. 0692-02-CT for Close Construction, Inc., is recommended based on the information provided in the air permit application and subject to the following:

1. Above special permit conditions;
2. 30-day public review period; and
3. 45-day EPA review period.

Reviewer: Joseph Baumgartner
Date: 10/8/14